

## Stormwater Rapid Condition Assessment Town of Longmeadow, Massachusetts

**To:** Town of Longmeadow, DPW  
**FROM:** Katie Weaver, GIS Analyst (Tighe & Bond)  
**COPY:** Libby Baldwin, Sam Swartwout, Jennifer Gilbert (Tighe & Bond)  
**DATE:** June 28, 2019

---

In accordance with our contract dated June 19, 2018 with the Town of Longmeadow, we are submitting our final deliverables to the Town for the Stormwater Rapid Condition Assessment project.

### 1 Project Summary

Tighe & Bond met with the Longmeadow Department of Public Works (DPW) on March 6, 2018 to review the Town's stormwater data and to discuss implementation of a condition rating for the Town's stormwater system. Upon approval of our proposal, Tighe & Bond proceeded with the Rapid Condition Assessment project to evaluate a sampling of the Town's stormwater system. The work effort included creating a GIS database using existing AutoCAD data provided by the Town and a field assessment of approximately 100 stormwater system structures and connected pipes. This memorandum summarizes the work conducted and condition findings.

#### Task 1: Update Stormwater GIS

1. Created GIS stormwater database using the Town's AutoCAD data as source information
2. Spatially aligned, where visible, the Town's database to Google 2017 aerial imagery
3. Assigned flow direction to stormwater pipes
4. Identified and recharacterized manholes and catch basins using imagery, where visible
5. Attributed size, material and year installed to stormwater pipes using the Town's street index cards, where possible
6. Created stormwater overview maps (36" x 48") and check plots (22" x 34")
7. Documented data issues with stormwater system for Town review

#### Task 2: Rapid Condition Assessment using Representative Areas

1. Selected a representative 100 manholes and catch basins throughout town using the following criteria:
  - a. Distribution of pipes grouped by year installed decades, size and material
  - b. Residential streets with minimal traffic
  - c. Structure with multiple pipes

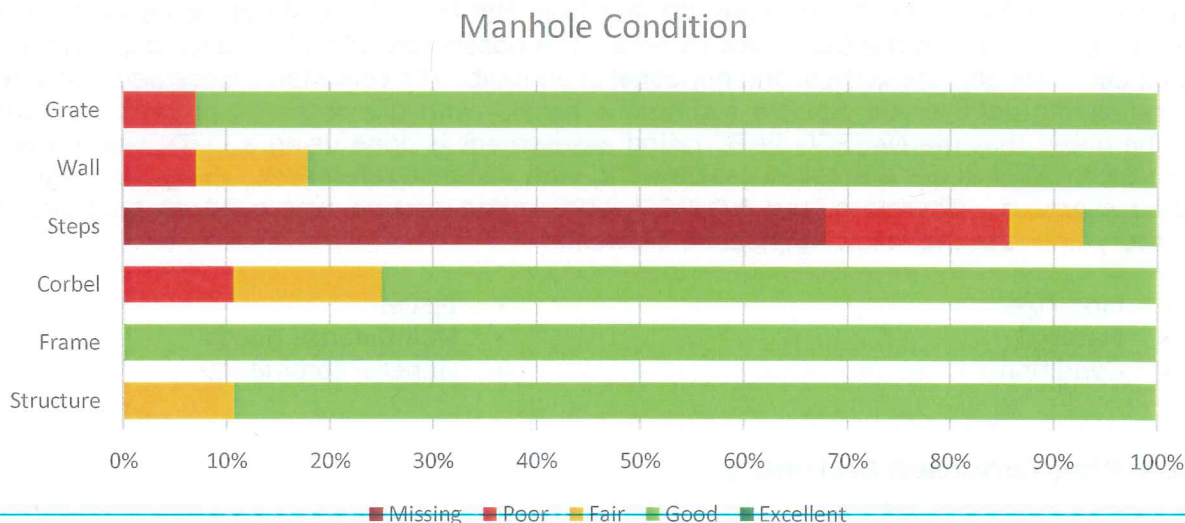
## 2.1 Manholes and Catch Basins

A Level 1 NASSCO MACP rating was conducted on drain manholes and catch basins. A Level 1 rating collects basic conditional assessment information to evaluate the general condition of a structure. Condition observations are taken from the surface without manned entry. The following structure elements were inventoried and rated:

- Overall structure condition
- Maintenance needs
- Sump present
- Illicit connection/odor issues
- Cover/grate material and condition
- Frame material and condition
- Corbel material and condition
- Steps material and condition
- Wall material and condition
- Floor material and condition
- Invert material and condition
- General comments
- Structure sketch

### 2.1.1 Manhole Condition Summary

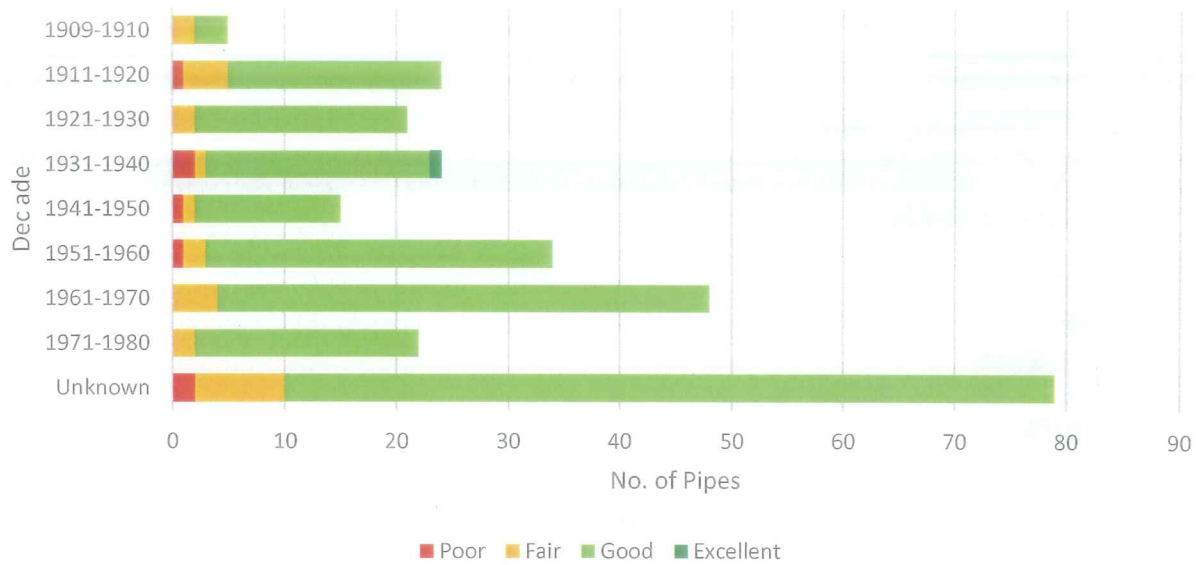
The majority of the 28 structures that we evaluated are in good condition. A summary of the condition assessment is provided in the graph in below. A notable issue was found with the condition of the steps that are used to access the manhole. Approximately 85% of the steps viewed were missing or likely unsafe to use.



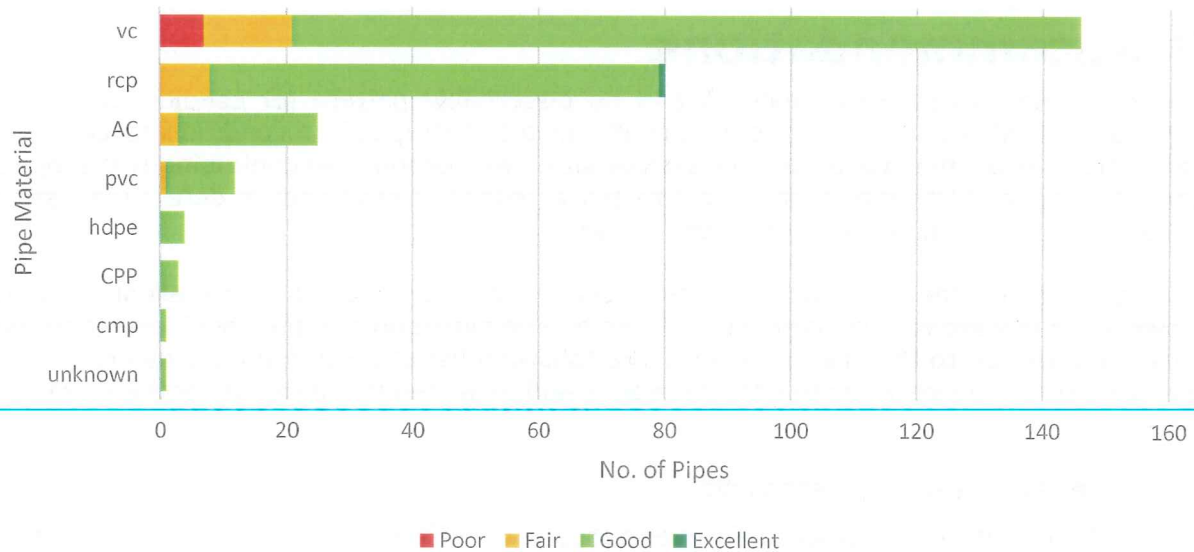
### 2.1.2 Catch Basin Condition Summary

The majority of the 53 catch basins that we evaluated are in fair to good condition. A summary of the condition assessment is provided in the graph in below. Similar to the manholes, the catch basin steps are in poor condition. Also, most of the wall and corbels of the catch basins need to be rehabilitated. Of note, approximately 60% of the catch basins did not have steps. This is not unexpected as typical new catch basins do not contain steps. The Town may wish to remove steps in poor condition or replace where future access may be needed.

Pipe Condition by Decade



Pipe Condition by Material



- Regularly clean catch basin sumps
- Root cut and/or flush pipelines

## 4 Deliverables

The following deliverables are attached to this memorandum via thumbdrive:

1. Stormwater Geodatabase (*LongmeadowMA-Stormwater.gdb*)
  - a. Videos are linked to their corresponding pipe as .mp4 and .AVI videos and the results from the Survey 123 field forms are linked as PDFs to the corresponding manhole or catch basin.
2. Envirosight Quickview airHD Camera Videos (*found in Videos\_ConditionPDFs folder*)
  - a. Each video (.mp4 or .AVI) is named by its unique GIS pipe ID
3. Survey 123 Field Report PDFs (*found in Videos\_ConditionPDFs folder*)
  - a. Each condition rated structure has a PDF named by its structure ID. Each PDF contains information on structure and associated connecting pipe conditions
4. System Maps (*found in PDFs folder*)
5. Condition Rating System Maps (*found in PDFs folder*)
6. Excel table (*StormwaterDatabaseAttributeTables.xlsx*) displaying attributes for pipes, manholes and catch basins. This includes condition rating information.

J:\L\L0759 Longmeadow Engineering Services\015 - Rapid Condition Assessment\Memo\Town of Longmeadow Stormwater Rapid Condition Assessment\_Memo.docx